

## Bureau of Reclamation, Interior

## §418.20

(iii) Rock Dam Ditch near the end of the concrete lining; and

(2) Subtracting:

(i) Flows measured at the Truckee Canal near Hazen—USGS gauge number 10351400;

(ii) The Carson River at Tarzyn Road near Fallon (below Sagouspe Dam) for satisfying water rights outside of the Project boundaries as described in §418.25, USGS gauge number 10312275;

(iii) Estimated losses in the Truckee Canal; and

(iv) Spills, precautionary drawdown, and incentive water released at Lahontan Dam under §§418.24 and 418.36.

### OPERATIONS AND MANAGEMENT

#### §418.16 Using water for power generation.

All use of Project water for power generation must be incidental to releases charged against Project diversions, precautionary drawdown, incentive water (§418.35), or spills.

#### §418.17 Truckee and Carson River water use.

Project water must be managed to make maximum use of Carson River water and to minimize diversions of Truckee River water through the Truckee Canal. This will make available as much Truckee River water as possible for use in the lower Truckee River and Pyramid Lake.

#### §418.18 Diversions at Derby Dam.

(a) Diversions of Truckee River water at Derby Dam must be managed to maintain minimum terminal flow to Lahontan Reservoir or the Carson River except where this part specifically permits diversions.

(b) Diversions to the Truckee Canal must be managed to achieve an average terminal flow of 20 cfs or less during times when diversions to Lahontan Reservoir are not allowed (the flows must be averaged over the total time diversions are not allowed in that calendar year; i.e., if flows are not allowed in July and August and then are allowed in September then not allowed in October and November, the average flow will be averaged over the four

months of July, August, October, and November).

(c) The Bureau will work cooperatively with the District on monitoring the flows at the USGS gage on the Truckee Canal near Hazen to determine if and when flows are in excess of those needed in accord with this part and bringing the flows back into compliance when excessive.

(d) Increases in canal diversions which would reduce Truckee River flows below Derby Dam by more than 20 percent in a 24-hour period will not be allowed when Truckee River flow, as measured by the gauge below Derby Dam, is less than or equal to 100 cfs.

(e) Diversions to the Truckee Canal will be coordinated with releases from Stampede Reservoir and other reservoirs, in cooperation with the Federal Water Master, to minimize fluctuations in the Truckee River below Derby Dam in order to meet annual flow regimes established by the United States Fish and Wildlife Service for listed species in the lower Truckee River.

#### §418.19 Diversions from the Truckee River to the Truckee Division.

Sufficient water, if available, will be diverted from the Truckee River through the Truckee Canal to meet the direct irrigation, domestic and other entitlements of the Truckee Division.

#### §418.20 Diversions from the Truckee River to Lahontan Reservoir, January through June.

(a) Truckee River diversions through the Truckee Canal will be made to meet Lahontan Reservoir end-of-month storage objectives for the months of January through June. The current month storage objective will be based, in part, on the monthly Natural Resources Conservation Service (NRCS) April through July runoff forecast for the Carson River near Fort Churchill. The forecast will be used to determine the target storage for Lahontan Reservoir and anticipated diversion requirements for the Carson Division. The Bureau, in consultation with the District, Federal Water Master, Fish and Wildlife Service, the Pyramid Lake

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Paiute Tribe, and other affected parties, will determine the exceedance levels and predicted Carson River inflows based on the reliability of the NRCS forecast and other available information such as river forecasts from other sources. The end-of-month storage objectives may be adjusted any time during the month as new forecasts or other information become available.

(b) The January through June storage objective will be calculated using the following formula:

$$\text{LSOCM} = \text{TSM/J} - (\text{C1} * \text{AJ}) + \text{L} + (\text{C2} * \text{CDT})$$

Where:

- (1) LSOCM=current end-of-month storage objectives for Lahontan Reservoir.
- (2) TSM/J=current end-of-month May/June Lahontan Reservoir target storage.
- (3) C1\* AJ=forecasted Carson River inflow for the period from the end of the current month through May or June, with AJ

being the Bureau's April through July runoff forecast for the Carson River at Fort Churchill and C1 being an adjustment coefficient.

- (4) L=an average Lahontan Reservoir seepage and evaporation loss from the end of the current month through May or June.
- (5) C2\* CDT=projected Carson Division demand from the end of the current month through May or June, with CDT being the total Carson Division diversion requirement (based on eligible acres anticipated to be irrigated times the appropriate duty times a 95 percent usage rate), and C2 being the estimate of the portion of the total diversion requirement to be delivered during this period.
- (6) Values for TSM/J will vary with the Carson Division water demand as shown in § 418.22 and the Adjustments to Lahontan Reservoir Storage Targets table. Values C1, L and C2 are defined in the following table along with an example of TSM/J for Carson River water demand of 271,000 acre-feet.

**MONTHLY VALUES FOR LAHONTAN STORAGE COMPUTATIONS**

	January	February	March	April	May	June
TSM/J .....	174.0	174.0	174.0	174.0	174.0	190.0
C1/MAY .....	0.863	0.734	0.591	0.394		
C1/JUNE .....	1.190	1.061	0.918	0.721	0.327	
L/MAY .....	13.9	12.5	9.9	7.1		
L/JUNE .....	18.2	16.8	14.2	11.4	4.3	
C2/MAY .....	0.30	0.30	0.28	0.18		
C2/JUNE .....	0.47	0.47	0.45	0.35	0.17	

(c) The Lahontan Reservoir storage objective for each month is contained in the following table.

**LAHONTAN RESERVOIR STORAGE OBJECTIVES**

Period	Monthly storage objective
January through April	Lowest of the May calculation, the June calculation, or full reservoir.
May .....	Lower of the June calculation or full reservoir.
June .....	June storage target.

(d) Once the monthly Lahontan Reservoir storage objective has been determined, the monthly diversion to the Project from the Truckee River will be based upon water availability and Project demand as expressed in the following relationship:

$$\text{TRD} = \text{TDD} + \text{TCL} + \text{CDD} + \text{LRL} + \text{LSOCM} - \text{ALRS} - \text{CRI}$$

Where:

- (1) TRD=current month Truckee River diversion in acre-feet to the Project.

- (2) TDD=current month Truckee Division demand.
- (3) TCL = current month Truckee Canal conveyance loss.
- (4) CDD = current month Carson Division demand.
- (5) LRL = current month Lahontan Reservoir seepage and evaporation losses.
- (6) LSOCM = current month end-of-month storage objective for Lahontan Reservoir.
- (7) ALRS = current month beginning-of-month storage in Lahontan Reservoir. (Includes accumulated Stampede credit described below and further adjusted for the net efficiency penalty or efficiency credit described in §§ 418.12, 418.36, and 418.37).
- (8) CRI = current month anticipated Carson River inflow to Lahontan Reservoir (as determined by Reclamation in consultation with other interested parties).

(e) The following procedure is intended to ensure that monthly storage objectives are not exceeded. It may be implemented only if the following conditions are met:

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(1) Diversions from the Truckee River are required to achieve the current month Lahontan Reservoir storage objective (LSOCM);

(2) Truckee River runoff above Derby Dam is available for diversion to Lahontan Reservoir;

(3) Sufficient Stampede Reservoir storage capacity is available.

(f) The Bureau, in consultation with the Federal Water Master, the District, Fish and Wildlife Service, the Bureau of Indian Affairs, and the Pyramid Lake Paiute Tribe will determine whether the calculated current month Truckee River diversion to Lahontan Reservoir (TRD-TDD-TCL) may be reduced during that month and the amount of reduction credit stored in Stampede Reservoir.

(1) Reductions in diversions may begin in November and continue until the end of June.

(2) Reductions in diversions to Lahontan Reservoir with credit storage in Stampede Reservoir may be implemented to the extent that:

(i) The reduction is in lieu of a scheduled release from Stampede Reservoir for the purpose of supplementing flows to Pyramid Lake; and/or

(ii) Water is captured in Stampede Reservoir that is scheduled to be passed through and diverted to the Truckee Canal.

(3) The Fish and Wildlife Service must approve any proposal to reduce diversions to Lahontan Reservoir for Newlands Project credit purposes without a comparable reduction in release from Stampede Reservoir or any conversion of Stampede Reservoir project water to Newlands Project credit water.

(4) The diversion to Lahontan Reservoir may be adjusted any time during the month as revised runoff forecasts become available. The accumulated credit will be added to current Lahontan Reservoir storage (ALRS) in calculating TRD. If the sum of accumulated credit and Lahontan Reservoir storage exceeds 295,000 acre-feet, credit will be reduced by the amount in excess of 295,000 acre-feet. Credit will also be reduced by the amount of precautionary drawdown or spills in that month. If the end-of-month storage in Lahontan Reservoir plus the accumu-

lated credit in Stampede Reservoir at the end of June exceeds the end-of-month storage objective for Lahontan, the credit will be reduced by the amount exceeding the end-of-month storage objective.

(5) Following consultation with the District, the Federal Water Master, and other interested parties as appropriate, the Bureau will release credit water as needed for Project purposes from July 1 through the end of the irrigation season in which the credit accrues with timing priority given to meeting current year Project irrigation demands.

(6) Conveyance of credit water in the Truckee Canal must be in addition to regularly scheduled diversions for the Project and will be measured at the USGS gauge number 10351300 near Wadsworth.

(7) Newlands credit water in Stampede Reservoir storage will be subject to spill and will not carry over to subsequent years. Newlands credit water in Stampede can be exchanged to other reservoirs and retain its priority. The credit must be reduced to the extent that Lahontan Reservoir storage plus accumulated credit at the end of the previous month exceeds the storage objectives for that month. If Newlands credit water is spilled, it may be diverted to Lahontan Reservoir subject to applicable storage targets.

(i) The Bureau, in consultation with the District, the Federal Water Master, and other interested parties, may release Newlands Project credit water before July 1.

(ii) If any Newlands credit water remains in Stampede Reservoir storage after the end of the current irrigation season in which it accumulated, it will convert to water for cui-ui recovery and will no longer be available for Newlands credit water.

(iii) Newlands credit water stored in Stampede Reservoir will be available for use only on the Carson Division of the Newlands Project.

(g) Subject to the provisions of §418.20 (b), LSOCM may be adjusted as frequently as necessary when new information indicates the need and diversions from the Truckee River to the Truckee Canal must be adjusted daily

or otherwise as frequently as necessary to meet the monthly storage objective.

**§418.21 Diversion of Truckee River water to Lahontan Reservoir, July through December.**

Truckee River diversions through the Truckee Canal to Lahontan Reservoir from July through December must be made only in accordance with the Adjustments to Lahontan Reservoir Storage Targets table and §418.22. Diversions shall be started to achieve the end-of-month storage targets listed in the table in §418.22 and will be discontinued when storage is forecast to meet or exceed the end-of-month storage targets at the end of the month. Diversions may be adjusted any time during the month as conditions warrant (i.e., new forecasts, information from other forecasts becoming available, or any other new information that may impact stream forecasts).

**§418.22 Future adjustments to Lahontan Reservoir storage targets.**

(a) The Lahontan Reservoir storage targets must be adjusted to accommodate changes in water demand in the Carson Division. Using the information reported by the District by March 1 of each year on eligible land expected to be irrigated and end-of-year data on eligible land actually irrigated (§418.9(b)), the Bureau will determine if the Lahontan Reservoir storage targets need to be changed. If no change is needed, the storage targets currently in effect will remain in effect.

(1) Only the actual water demand reported for full water years (100 percent water supply) will be considered. Targets will not be changed based on water demand reported for less than full water years.

(2) All changes in storage targets must start on October 1 of any year. If information provided by March 1 and other available information indicates that the Lahontan Reservoir storage targets must be changed, the new set of storage targets must be applied starting October 1 of the same year and remain in effect until changed according to this section.

(b) All changes to storage targets will be made according to the table in this section. The table of storage targets has been developed to provide a consistent Project water supply over a range of demands.

(1) A storage target adjustment must be made in increments of thousands of acre-feet for the change as indicated in the column listing Carson Division Demand and the complete set of monthly targets must be applied.

(2) If the change in reported water demand is above or below the values in the table of storage targets, the adjustment to the storage targets can be calculated. The calculated adjustment is the number that would appear in the column Target Adjustment in the table. The calculated Target Adjustment is then added or subtracted to the base storage target for each month. Target Adjustments must be made in whole increments of 1,000 acre-feet and calculated values will be rounded to the nearest 1,000 acre-feet.

(i) For demands greater than those set forth on the table, the formula for the Target Adjustment is: Target Adjustment =  $0.00208 \times (\text{Demand in acre-feet} - 271,000 \text{ acre-feet})$ . For example, if water demand increased to 292,635 acre-feet per year, the Target Adjustment calculation would be  $0.00208 \times (292,635 - 271,000)$ . The result would be a Target Adjustment of 45 or 45,000 acre-feet. This would be added to the base monthly storage target values so, the January-May target would be 219,000 acre-feet, June would be 235,000 acre-feet, and so on.

(ii) For demands less than those set forth on the table, the formula for the Target Adjustment is: Target Adjustment =  $0.00174 \times (\text{Demand in acre-feet} - 271,000 \text{ acre-feet})$ . For example, if water demand decreased to 248,011 acre-feet per year, the Target Adjustment calculation would be  $0.00174 \times (248,011 - 271,000)$ . The result would be a Target Adjustment of -40 or -40,000 acre-feet. This would be subtracted from the base monthly storage target values so, the January-May target would be 134,000 acre-feet, June would be 150,000 acre-feet, and so on.